

## BARBITURATE WITHDRAWAL SYNDROME

By Inderlal R. Rekhraj, M.B., B.S. (Vikram)

(General Hospital, Singapore)

Alcoholics, morphine or opium addicts sometimes resort to barbiturates in an attempt to avoid consumption of the former drugs. But such an attempt either leads to a "mixed addiction" or an addiction to barbiturates alone. Barbiturates are taken, because they effectively relieve nervousness and tremor in these addicts. Alternatively, psychoneurotic patients who are on barbiturates ultimately become dependant, tolerant and finally addicted to these drugs. The consequent effect of withdrawal of barbiturates suddenly, or the inability to obtain them, leads to a withdrawal syndrome which is described in this paper. In the United States, this condition has stimulated an extensive study, and it has been shown that the Withdrawal Syndrome in barbiturates, opium, morphine, chloral and paraldehyde have a marked similarity to the clinical picture of delirium tremens of alcoholics. It is noted that the Germans were the first to study the effects of chronic barbiturate intoxication and its withdrawal as early as 1914, and they compared these effects with those of delirium tremens. Work (1928) reviewed cases of chronic barbiturate intoxication and described the various clinical features in his study. Kalinowsky (1942) first studied the withdrawal seizures after chronic barbiturate intoxication and he ascribed these to an unknown physiochemical process developing in these patients. Isbell et al (1950) made an experimental study on prison convicts, and subsequently described in detail the clinical manifestations and treatment of this syndrome. He defined this condition as "a disorder due to a sudden reduction in the dose of barbiturates, which a person is chronically intoxicated with these drugs, is accustomed to take, and which is characterised by weakness, anxiety, anorexia, insomnia, tremor, disturbances in cardio-vascular adjustments on standing, convulsions, slight fever and a psychoses". The psychoses was manifested by anxiety, agitation, insomnia, confusion, disorientation chiefly in time and place, but not in person, delusions and auditory and visual hallucinations.

In Singapore, acute barbiturate poisoning is increasing as shown by the cases recorded in the General Hospital between 1961 and 1964. Fortunately, the incidence of chronic barbiturate addiction is comparatively low, and there have

been three cases of barbiturate withdrawal syndrome recorded.

Year	1961	1962	1963	1964
Acute barbiturate poisoning	44	67	64	94
Barbiturate addiction	0	0	0	5
Barbiturate Withdrawal Syndrome	1	0	0	2

### CASE REPORT

The patient was a Norwegian male aged 28 years, settled in England and was an Engineer on board a ship. While in Singapore, he saw a general practitioner and requested for a supply of two hundred tablets of sodium amytal which he claimed to be taking frequently in a day. He gave a false name for himself and the boat on which he was working. His request was refused. The following day, the same doctor was summoned to see the patient who was observed to be behaving queerly, keeping to himself in the cabin unwashed and unshaved. The doctor was informed by the captain of the ship that the patient was an alcoholic, and probably also a drug addict. The patient was admitted to the hospital and was found to be in a confused state with a body temperature of 104°F. He was disoriented in time and place, but not in person. He was humming away an inarticulate and unfamiliar tune. His general hygiene was very poor. He had a beard of four to five days growth; his teeth were unclean; his finger nails were long and dirty; the feet were covered with thick layer of dirt and it appeared that he had not washed himself for several days. His pulse rate was 100 per minute and regular, blood pressure 170/100 m.m. of Hg. He was mildly dehydrated and there were spider naevi on his chest. His eyes were looking upwards with an irregular nystagmus in all directions. The pupils were normal in size, equal and reactive to light. He had dysarthria which was obvious when he spoke. The upper limbs were stiff. There were coarse tremors in both the hands. There were intermittent clonic twitching of all the four limbs. The tendon reflexes were brisk in all the limbs. The plantar response was flexor on both sides. There was a considerable neck rigidity, but the Kernig's sign was negative. The fundi were normal. Clini-

cal examination of the heart, lungs and abdomen revealed no abnormality. Immediate investigations showed the following features:-Total white count 15,000/cu.mm., polymorphs 91%, lymphocytes 9%, blood films for malarial parasites were negative repeatedly for three specimens. A lumbar puncture done on admission showed a clear fluid with a pressure of 150 mm. of water and a biochemical and microscopic examination showed no abnormality. Urine analysis was also normal.

He was given intravenous fluids and Vitamin B Co. 2 c.c. intramuscularly on admission. On the following morning, his condition remained unchanged, but in the afternoon when he was given 5% sodium pentothal slowly by the intravenous route, he showed a dramatic change in his condition. The coarse tremors gradually subsided and finally stopped, his eyes movements became smooth, and his nystagmus disappeared momentarily. When 5 ml of this solution had been administered, he spoke rationally and in distinct words asked, 'Where am I?' Thereafter, 2 ml more of the pentothal was injected, and the patient went to sleep. Simultaneously, sodium amytal gr. 15 was given through the Ryle's tube and then gr. 6 every six hours for the next twenty hours. The next day, the patient woke up after a prolonged sleep. Although he was quite rational and oriented in time and place, he had a retrograde amnesia. He was very slow in thinking, and he could not tell how he came to Singapore or where he was working. He could, however, give details of his family. Later in the day, he admitted that he was addicted to sodium amytal, which he took gr. 3 four times a day for several months to avoid alcohol, which he consumed in large quantities. His general condition had improved considerably; the temperature dropped to 100°F; all his tendon reflexes were brisk and he had coarse tremors of hands and was ataxic. The sodium amytal was maintained at gr. 6 six hourly for the next twenty-four hours. After two days of this specific treatment was started, there was a further improvement in his condition. He was helping himself with meals and drinks, and was able to sit up in a chair. He smoked heavily—one cigarette after another. The cerebellar signs still persisted. Mentally, he was still confused but much less than on the previous day. His physical and mental state improved gradually over the next four days; the tremors and nystagmus disappeared; he could walk with a broad-based gait with some assis-

tance. His sodium amytal was reduced by gr. 1½ every twenty-four hours till he was on gr. 4½ six hourly when he was transferred to a Nursing Home under the care of the doctor who referred the case to the hospital for admission.

## COMMENTS

The case described, presented with manifestations of acute barbiturate withdrawal syndrome. This condition could have been mistaken for encephalitis, delirium tremens, Wernicke's disease, and opiates withdrawal. The history of barbiturate addiction, as deduced from the patient's demand for sodium amytal initially from the doctor, clinched the diagnosis. The hyperpyrexia in this case was an ominous sign and the eventual outcome could have been fatal if not for the timely treatment.

## SUMMARY

A case of barbiturate withdrawal syndrome is described in an engineer who was an alcoholic. In an attempt to avoid alcohol, he took sodium amytal gr. 3 four times a day and he ran out of his supply during his trip to the East on a ship. On arrival in Singapore, his attempt to obtain the drug failed. Subsequently, he developed physical and mental symptoms which were attributable to the Withdrawal Syndrome. He was treated with high doses of sodium amytal after an initial 5% sodium pentothal given intravenously. The sodium amytal was gradually tapered while he showed remarkable improvement in his condition during his stay in the hospital.

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